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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/778,654

02/07/2001

Jochen Franzen

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11/29/2002

KUDIRKA & JOBSE, LLP
ONE STATE STREET
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BOSTON, MA 02109

EXAMINER

EL-SHAMMAA, MARY A

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/778,654	FRANZEN, JOCHEN	
	Examiner	Art Unit	
	Mary A. El-Shammaa	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2-9-00 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification: Minor Objections

The abstract of the disclosure is objected to because in line 4, the term "preferredly" should be changed to "preferably". Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: on page 1, line 8 the term "preferredly" should be changed to "preferably". There were also several other typing errors found throughout the specification such as page 2, lines 22 and 31, page 3, lines 11 and 21, page 4, lines 16 and 22, page 6, line 10, and page 7, lines 8 and 9. Appropriate correction is required.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

Claim1 is objected to because of the following informalities: Lines 8-11 are written in an unclear manner and should more distinctly specify the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3-6 rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (Holle et al. 5,742,049).

Regarding claim 1, Holle et al. discloses a time-of-flight mass spectrometer comprising a narrowly defined ion beam which is directed into a pulser that accelerates and pulses the beam, at least one reflector, a detector, and gridless slit diaphragms (See Column 4, Lines 29-33 and 54-56, Column 7, Lines 5-8, and Column 10, Lines 58-60).

Regarding claims 3-6, Holle et al. discloses in Figure 1 the use of either several or one cylindrical Einzel lens extended in the x-direction made up of two outer slit diaphragms (4, 6) and one inner slit diaphragm (5) which can be held at a lens potential or at slightly different potentials (See Column 7, Lines 47-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holle et al. in view of Kerley et al. (5,955,730).

Holle et al. discloses a time-of-flight mass spectrometer that does not include a two-stage reflector. Kerley et al. discloses a two-stage reflector having two slit diaphragms, a short deceleration field, and a reflection field (See Column 2, Lines 8-11 and 32-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the two-stage reflector as taught by Kerley et al. in the time-of-flight mass spectrometer of Holle et al. because the two-stage reflector would increase the ion transmission and mass resolution.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holle et al. in view of Bechtold et al. (5,065,018).

Holle et al. does not disclose a time-of-flight mass spectrometer wherein the pulser comprises two slit diaphragm electrodes and one repeller electrode. Bechtold et al. discloses a pulser that comprises two slit diaphragm electrodes and a repeller electrode (See Column 3, Lines 26-35 and 43-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the electrodes taught by Bechtold et al. in the pulser disclosed by Holle et al. because including said electrodes allows for ions to reach the detector simultaneously as well as shaping the beam as it passes through the apertured electrodes.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holle et al. in view of Park (6,469,295).

The mass spectrometer disclosed by Holle et al. does not disclose the reflectors being rotated around the x-axis so as to form a zig-zag beam and then deflecting the beam in the y-direction by an electric capacitor field. Park discloses a time-of-flight mass spectrometer

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configured with two or more reflectors slightly rotated around the x-axis so that the ion beam is reflected back and forth between them forming a zig-zag beam (See Column 9, Lines 18-24). The beam is then deflected by an electric capacitor field (See Column 12, Lines 35-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the reflector configuration taught by Park because the formation of a zig-zag beam between the reflectors produces a longer flight path, resulting in a greater mass resolving power of the spectrometer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reilly et al. (6,437,325), Weinberger et al. (5,382,793).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary A. El-Shammaa whose telephone number is 703.308.0851. The examiner can normally be reached on M-F(8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 703.308.4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9318 for regular communications and 703.872.9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.872.9317.


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November 26, 2002



JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800